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ABSTRACT

The development of a planning/budgeting model as an integral component of a decision support system is described. The case study approach is used to describe how Grambling State University (GSU) developed the model to improve its financial planning and budgeting processes. The model can be used for tactical and/or strategic planning. The model is discussed as an example of GSU's simulation/forecasting capability. The following four basic computerized data files are used to make extrapolations: credit hours, enrollment, personnel, and fee table. With the data files and output generated from other models, the model can be used to prepare simulations and forecasts about students, faculty, staff, state appropriations, other revenues, expenditures, surpluses, and deficits. An important feature of the planning/budgeting model is that the user can change the data elements. In addition the planning/budgeting model integrates data generated by other models, i.e., the salary planning, enrollment/recruitment, and institutional cost index models. Appendices provide detailed descriptions of the various data elements that are contained in the four basic files. Also included are a list of outputs generated by the planning/budgeting model, and examples of calculations that are performed by the model. (SW)

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GRAMBLING STATE UNIVERSITY'S PLANNING/BUDGETING MODEL: AN INTEGRAL COMPONENT OF A DECISION SUPPORT SYSTEM

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GRAMBLING STATE UNIVERSITY'S PLANNING/BUDGETING MODEL: AN INTEGRAL COMPONENT OF A DECISION SUPPORT SYSTEM

ABSTRACT

This paper deals with the development of a Planning/Budgeting Model as an integral component of a Decision Support System (Planning and Institutional Research Subsystem). The paper uses a case study approach in describing how Grambling State University (GSU) developed the model to improve its financial planning and budgeting processes. Grambling State University is a nationally and internationally known institution with a current enrollment of 4776 students.

The paper presents the model as an example of GSU's simulation/forecasting capability. This model utilizes the following four basic computerized data files in making extrapolations: (1) Credit Hours; (2) Enrollment; (3) Personnel; and (4) Fee Table. With the data files enumerated above, and the output generated from other models, the model can be used to prepare simulations and forecasts about students, faculty, staff, state appropriations, other revenues, expenditures, surpluses, and deficits.

SOUTHERN ASSOCIATION FOR INSTITUTIONAL RESEARCH

This paper was presented at the 1984 Annual Conference of the Southern Association for Institutional Research held in Little Rock, Arkansas, October 24-26, 1984. It was reviewed by the SAIR Publications Committee and was judged to be of interest and pertinent to others concerned with the research in higher education. This paper has therefore been selected to be included in the ERIC collection of Conference Papers.

Richard D. Howard
President, SAIR

INTRODUCTION AND PERSPECTIVES

Grambling State University is a nationally and internationally known institution located in the rural North Central region of Louisiana. The university is a public institution which has traditionally served a predominant population of black students who are economically, educationally and socially disadvantaged. The institution has a current enrollment of 4776 students, of whom seventy-four percent are housed in campus dormitories. Approximately ninety-five percent of GSU's students receive financial aid. GSU has 245 full-time faculty members.

Most observers agree that institutions of higher education must improve and increase their ability to respond effectively to the internal and external pressures facing them. Using GSU as a specific example of this phenomenon, managing the university has become increasingly complex in recent years. This complexity has been exacerbated by uncertain support, the steady rise in the cost of facilities, energy and instructional services, the greater demands for accountability by external publics, the decline in financial aid, the increased pressures created by the settlement of the Higher Education Desegregation Litigation in the State of Louisiana, the increasing number of high-risk students, the ever-increasing demands for new and improved course offerings and expanded student services, and the rapidly evolving information processing and communications technologies.

Most of the aforementioned problems are common to many institutions of higher education. However, these problems assume greater significance at GSU because they represent basic threats to the survival and self-sufficiency of the institution. GSU has no endowment fund or other assets that have revenue-generating potential. Additionally, extramural support from foundations and corporations has been minimal. Increased state appropriations are primarily contingent upon a funding formula that is enrollment driven. Therefore, GSU has limited power to control the flow of

resources to its "coffers". Since the direction of resource flow at GSU is highly unstable and uncertain, top level management officials were compelled to devise a better way of managing and controlling those resources which the institution received via state appropriations. Data and information which were necessary for optimal decision-making and strategic planning had to become readily available.

Moreover, GSU's executive management had to be in a position to evaluate the economic consequences of pursuing various alternatives. This evaluation involved having the capability to answer basic "what if" types of questions about the university's operating conditions. In analyzing various scenarios via simulations and forecasts, the university embarked upon a program to develop a decision support system.

COMPUTING ENVIRONMENT

The university is currently engaged in a program to strengthen its management capabilities. This program is funded primarily by a Title III grant from the U.S. Department of Education. The State of Louisiana has supplemented the Title III funds by providing funding for some specific items, e.g., computer hardware.

The program included an effort to formulate and develop a management development and training program for professional and non-professional staff members to upgrade the managerial skills of those with administrative responsibilities. Another part of the program was aimed at providing better information on a timely basis to all levels of GSU's management. GSU's managers had to rely on limited staff efforts to satisfy only a portion of their information needs. For the most part, reports were generated manually, rather limited in scope, and frequently compiled long after they were really needed. There was an apparent need for most of this information to be generated by the GSU computer center so that managers could have accurate, comprehensive and timely data on the university's operations and

programs.

The capabilities of the GSU computer center to support administrative functions have been enhanced in recent years by upgrading and adding computer hardware and software. This evoluationary process has led to the current PDP 11/70 computer configuration with 608K words of core memory and 176M bytes of disk storage space. It currently supports 37 remote terminals for instructional and administrative users. An additional medium-sized mainframe computer (VAX 11/780) has been installed to establish a dual hardware configuration. Current plans call for the VAX to be dedicated to instructional and research use, making the entire PDP 11/70 system available for administrative use. This has resulted in a dramatic increase in the potential for providing administrative support. Additonal terminals have been installed to facilitate computer access by all administrative users.

The collection of software available at the GSU computer center has been expanded to include the major, general purpose computer languages and standard statistical packages, i.e., COBOL, FORTRAN, BASIC-PLUS, PL/1, RPG, SPSS and MINITAB. The POISE Data Management System has been installed along with most of the available POISE modules. These include: (1) Data Management System, (2) Financial Accounting System, (3) Registration and Student Records, (4) Payroll System, (5) Student Billing/Receivables, (6) Financial Aid System, (7) National Defense Student Loan, (8) Personnel System, (9) Fixed Assets, (10) Alumni/Development, (11) Inventory System, (12) Admissions System, (13) Position Control System, (14) Student Affairs-Housing, (15) Student Affairs-Student Life, and (16) Library System. All of these systems are either fully operational now, or will be within a few months. Other POISE modules for financial management and accounting will become operational in the near future. These POISE modules are the major transactional information systems (TIS) in use at GSU.

Other, more specialized, software include: (1) Enrollment/Recruiting, (2) Long-Range Planning/Budgeting, (3) Instructional Cost Index, (4) Resource Allocation, (5) Tenure, (6) Resource Requirement, (7) Unduplicated Headcount Enrollment, (8) Salary Planning, (9) Student Information, and (10) Productivity Indices. These have been developed by the Office of Planning and Analysis to support some of the planning, management and evaluation (PME) functions. In the past, PME analyses were conducted on an ad hoc basis, largely without adequate computer support. This deficiency has been overcome by the development of additional software, specifically designed to support the PME function.

GSU plans to improve the computer support for administrative operations by expanding its on-line, interactive capabilities, and by developing a hierarchy of information systems (HIS/MIS) over the next three years. The installation of the VAX 11/780 for instructional and research use has greatly increased the number of simultaneous, on-line administrative users which can be accomodated. The HIS/MIS will enhance and strengthen GSU's management capability by providing the information necessary to support administrative activities at all levels. The HIS/MIS includes (1) Transactional Information System (TIS) for the routine daily operations of the university, (2) the Management Information System (MIS) which produces analytical reports from the TIS data base for institutional managers, and (3) the Planning and Management System (PME) which further integrates transactional data and external information to support planning and management decisions.

PURPOSE

In a paper presented at the Twenty-Third Annual Forum of AIR, the author attempted to explain how and why Grambling State University developed a Planning and Institutional Research Subsystem (Decision Support System). Using a case study approach, the author briefly explicated the three primary aspects of the

Decision Support System: (1) Grambling Institutional Data System (GRIDS); (2) Management Reporting System; and (3) Simulation and Forecasting Models. This Planning and Institutional Research Subsystem is designed to support decision makers at all levels. Moreover, the Decision Support System (DSS) provides the necessary information to formulate intermediate and long-range policy and planning decisions.

However, the subject of this current paper deals specifically with the development of a Planning/Budgeting Model as an integral part of the Planning and Institutional Research Subsystem. The author hopes to present a more detailed discussion of this important aspect of the DSS.

The purpose of this paper therefore, is to show how the development of an institutional financial model (Planning/Budgeting Model), especially a model that allows for manipulation of parameters, can be used for tactical or strategic planning. Additonally, the paper will discuss how the Planning/Budgeting Model can be employed in developing an operating budget and in creating a financial plan.

LITERATURE REVIEW

Effective information systems are increasingly crucial in preparing higher educational institutions to successfully meet the challenges of the 1980's and beyond. A promising information strategy to respond to the challenges is the concept of Decision Support Systems (Sprague and Watson, 1979, pp. 61-62).

"Decision Support Systems focus on the support of decision making rather than the system of information flows and reports. These systems consist of three major subsystems - a data base, a model base, and the decision-maker" (p. 63).

The particular emphasis of this paper, however, is the Model Base whose composition may be the following: (1) Strategic Planning Models; (2) Tactical Planning Models; and (3) Model Building Tools and Routines (Brown and Droegemueller, 1983, pp. 13-14).

According to Craven (1975, pp. 130-131), an information decision system consists of several basic components: a data base, analytical tools, generated information, and evaluation and decision-making procedures. Each component and its related elements are listed below for emphasis:

1. Core Data Base
   - student data
   - curricular data
   - facilities data
   - personnel data
   - finance data

2. Analytical Tools
   - program profile models
   - enrollment projection models
   - resource requirement simulation models
   - flow models
   - etc.

3. Generated Information
   - calculations
   - historical profiles
   - comparisons
   - estimates and projections
   - simulations

4. Evaluation
   - extensiveness criteria
   - effectiveness criteria
   - efficiency criteria
   - benefit criteria

5. Decision-making

   Other Internal and External Factors
   - demands
   - supports
   - constraints

The conceptual framework of Craven can certainly serve as a master plan for the design, development, and implementation of a Decision Support System and its integral components (p. 129).

Similarly, McManis and Parker (1978, p. 50) formulated the specific-design requirements of planning and research subsystems. These requirements are the operational functions and the report production capabilities of the system:

Operational Functions:

- Provide interaction with all existing computerized data banks (or the data base) so the subsystem can generate a wide variety of special reports to assist management in conducting institutional research and planning.

- Provide for a computer simulation program to be developed (or purchased) by the institution which would permit futuristic analyses of academic offerings, instructional/instruction workload, faculty requirements, changes in the enrollment mix, and financial stability, etc.

Report Productions:

. A variety of special (one-time) reports to assist management in conducting institutional research and planning activities (p. 50).

Lastly, Keen has made some important observations about Decision Support Systems and their application. Keen describes the DSS as a system that will perform the following functions:

1. Support decision-makers in non-routine problem solving;
2. Permit ease of access and flexibility of use; and
3. Provide a personal tool for the decision-maker (1980, pp. 33-44).

The conceptual frameworks cited above were employed by GSU in developing its Planning and Research Subsystem (Decision Support System). Furthermore, these conceptual frameworks provided an opportunity for GSU to study the functional relationships of an information system to the environment of higher education and the needs of decision-makers.

METHODOLOGY/APPROACH

The case study method was selected in order to provide sufficient detail and analysis to illuminate the process by which GSU developed its Planning/Budgeting Model. This approach was also used to indicate how the model was utilized in supporting and improving the process of decision-making, especially the allocation of the institution's limited resources.

The case, as presented, is nothing more than a real life institutional problem. However, the author believes that this case can serve as a useful teaching and learning device in that it evidences how theoretical and conceptual frameworks can be applied to an actual problem or situation.

DISCUSSION

During the month of September, 1980, the Executive Director of Planning and Analysis convinced GSU's executives and administrators that current and

reliable information was a basic ingredient for effective decision-making in the implementation of a strategic plan and in the evaluation of outcomes of the strategic planning and budgeting processes. Additionally, the Executive Director explicated how the development of a Planning/Budgeting Model (institutional financial model) would give the university a greater capability to analyze the economic consequences of pursuing various alternatives.

Recognizing that the quality of financial planning could not consistently rise above the quality of information on which it was based, GSU's executives requested the Executive Director to develop a Planning/Budgeting Model as an integral component of a Decision Support System (Planning and Research Subsystem). A preliminary version of the model was completed by January 30, 1981.

However, this preliminary version did not gain wide acceptance because some administrators were convinced that the model could not be used to develop an operating budget for the university. They came to this conclusion primarily because the model contained general revenue and expenditure categories. Therefore, these administrators requested that the model be developed on a detailed and a line-item-basis to facilitate the budget development process. The administrators also stressed the need for a financial model that allows for the manipulation of parameters in tactical and strategic planning. With these concerns in mind, a new Planning/Budgeting Model was developed.

This paper focuses on one aspect of the highest level (PME) of the hierarchy of information systems (HIS/MIS) discussed earlier. It is appropriate to summarize this important element of the hierarchy via the following objective:

> To strengthen the planning, management and evaluation (PME) process by developing and implementing a planning and institutional research subsystem by June 30, 1987.

In achieving this objective, three primary aspects of the subsystem must be

developed: (1) Grambling Institutional Data System (GRIDS); (2) Management Reporting System; and (3) Simulation and Forecasting Models. This paper only deals with the development of simulation and forecasting models.

Simulation and Forecasting Models

Simulation and forecasting models are integral components of GSU's Decision Support System. The development of the following simulation and forecasting models provides the management team at GSU with a systematic and orderly method of analyzing policy:

(1) Enrollment/Recruiting

(2) Planning/Budgeting

(3) Instructional Cost Index

(4) Resource Allocation

(5) Tenure

(6) Resource Requirement

(7) Unduplicated Head Count Enrollment

(8) Salary Planning

(9) Student Information

(10) Productivity Indices

In these simulation and forecasting models, data representing various operational activities of the university are fed to computer programs (simulation), which will then calculate what some future actions or events will be. Being able to predict what will happen if certain events take place enables the university to make the necessary adjustments to its plan of operation.

Specifically, the simulation and forecasting models enable GSU's management "to conduct a wide variety of futuristic studies concerning the probable effects that changes in the number of students or the mix in student enrollment might

have on academic offerings, the instructional workload, faculty requirements, and the financial stability of the institution" (McManis and Parker, 1978, p. 51). The development of this simulation/forecasting capability was undertaken only after other functional subsystems such as GRIDS were implemented and made operational.

It is also important to point out that these simulation programs were initially designed as micro-computer applications. Later, after much refinement, they were implemented on the university's PDP 11/70.

Planning/Budgeting Model

One example of GSU's simulation/forecasting capability is the Planning/Budgeting Model. This model utilizes the following four basic computerized data banks (files) in making futuristic extrapolations:

1. Credit
2. Enrollment
3. Personnel
4. Fee Table

Appendix A provides detailed descriptions of the various data elements which are contained in the four basic files. An important feature of the Planning/Budgeting Model is that the user has the ability to change these data elements at will.

Also, the Planning/Budgeting Model integrates data generated by the Salary Planning, the Enrollment/Recruitment, and the Institutional Cost Index models. The data bases enumerated above, and the output generated from these models, can be used by the Planning/Budgeting Model to prepare simulations and forecasts about students, staff, faculty, state appropriations, other revenues, expenditures, surpluses or deficits.

Exhibit A reveals the actual outputs which are generated by the Planning/Budgeting Model:

EXHIBIT A

I. Students

A. Students by classification
B. Students by sex classification
C. Students by source
D. Students by housing code

II. Revenue

A. State Appropriations
B. Student Fees (Fee Table)
C. Other Revenues

III. Expenditures

A. Personal Services
B. Travel
C. Operating Services
D. Supplies
E. Professional Services
F. Other Charges
G. Capital Outlays
H. Interagency Transfers

IV. FTE Faculty

A. Professors
B. Associate Professors
C. Assistant Professors
D. Instructors
E. Part-time

V. Lab School

A. Lab Faculty
B. Total

VI. Administrative/Support Staff

A. Senior Administrators
B. Administrative Assistants
C. Deans
D. Technicians
E. Library Staff
F. Maintenance
G. Secretaries
H. Directors
I. Support Staff - Classified
J. Support Staff - Unclassified

VI. Administrative/Support Staff Continued...

K. Clerks
L. Part-time
M. Total

VII. Ratios

A. Student/Faculty
B. Student/Staff
C. Staff/Faculty

VIII. Interagency Transfers

A. Transfer of Funds
B. Transfer of Services
C. Total Transfers

IX. Results of Operations

A. Surplus
B. Deficit

The Planning/Budgeting Model can be described as an electronic spreadsheet. It has 15 arithmetic matrices and 4 non-arithmetic matrices. Exhibit B gives the names of the arithmetic matrices and the names of elements stored in them.

A cell can contain an alphabetic label or a number. Additionally, a formula can be associated with a cell making the number calculated in that position an algebraic combination of other numeric values appearing on the spreadsheet. As a value is changed in a cell, all formulas containing that cell as an argument are automatically recalculated and the new results placed in the appropriate cells. In more specific terms, this means that any change of revenue and expenditure items will be instantaneously reflected throughout the model (spreadsheet) and the period of projection.

Exhibit B also includes a few examples of the many calculations which are performed by the model. As stated earlier, the model allows for manipulation of parameters and can be used for tactical and/or strategic planning.

EXHIBIT B

Arithmetic Matrices

Name	Elements Stored In Arrays
A1	Student Classification
C7	Student Sex
C7	Student Residence
C7	Housing
C7	Revenue
C7	Travel
C7	Operating
C7	Supplies
C7	Professional Service
C7	Capital Outlay
C7	Interagency Transfers
C7	Other Charges
A9	Number of Faculty by Rank
A3	Lab School Faculty
B1	Administrative and Support Staff
V	Ratios
B4	Average Salaries of Faculty by Rank
A5	Salaries of Lab School
B3	Total Faculty Salaries by Rank
B5	Personal Services
E	Expenditure Total
R	Revenue Total
W	Surplus or Deficit
Mt	Fee Table
St	Student Table

Examples of Calculations

1. Multiplying Mt by St will give you the Total General Tuition and the Total Out-of-State Fees.

2. Multiplying A9 by B4 (corresponding elements) will give you the Total Salaries of GSU.

3. Subtracting E from R (corresponding elements) will give you the surplus or deficit for the year.

4. If there were a 5% salary increase, each element in the array (b4) would be multiplied by .05.

CONCLUSIONS

As Exhibit A has shown, the model contains all of the revenue and expenditure items which are necessary to develop an operating budget and a financial plan for GSU. The first step in developing the annual operating budget is the extraction of information on projected student enrollment, expenditures, and revenues from the planning budget. This information is then used in preparing the operating budget request for the next fiscal year.

GSU's operating budget covers a one-year period and sets forth a financial plan of operations within which the institution must operate. Therefore, the projected available revenue has an important bearing on the funding level of the operating budget. The model can be used in GSU's strategic and tactical planning process in ascertaining if additional revenue should be obtained by increasing fees, by generating more gifts and grants or by increasing revenue through other methods.

If a situation of declining revenue is expected, the model can also be employed to anticipate its impact and to develop strategic responses. For example, restricted funds may be expected to decline significantly because of impending Federal funding cut-backs, or GSU may be expecting a reduction in its state appropriation.

Such uses are possible because the model allows for manipulation of parameters. Included among the parameters are policies and guidelines which are to be used by the university in preparing the operating budget. Some of these policies and guidelines deal with salary increases, price level increases, etc.

At GSU and other institutions, financial planning involves the translation of the long-range academic and support programs and the long-range physical facilities plans of an institution into financial terms and figures. Long-range financial planning is also a feature of the Planning/Budgeting Model. As currently designed,

the model allows for projections extending from one to ten years. However, because economic conditions have been highly unstable and highly volatile for several years, GSU administrators believe that there is a very low probability of obtaining reliable economic forecasts beyond a three to five year period. Appendix B presents an example of an economic forecast for GSU for the next five years (a handout during presentation).

In closing, it should be recognized that rarely are projected revenues sufficient to cover operating budget requests submitted by departments, schools, and colleges, and the same holds true in long-range planning. This simply means that long-range needs must eventually be tailored to fit the projected revenue.

IMPLICATIONS

All institutions regardless of size, during this era of dwindling resources and increasing accountability, will ultimately find a need to develop a capacity for the integration of transactional data in support of planning and management decisions. Institutions will also find a need to develop the capacity to evaluate the consequences of decisions as well as the alternative strategies available to decision-makers. The development of these capacities will enable the institution to improve on its method of allocating scarce resources during this period of economic uncertainty.

Simulation and forecasting models can be an integral component of a small university's computer based planning information system (DSS). The development of models such as Planning/Budgeting can provide executive management with a systematic and orderly method of analyzing decisions and policy changes.

Once data has been entered for the model, these data can be duplicated and used to produce several different economic scenarios, each based on a different set of assumptions. In this manner, scenarios representing the worst, best, or

most likely economic conditions can be constructed and tested for comparison and planning purposes. Being able to predict what will happen if certain events take place enables the university to make the necessary adjustments to its plan of operation.

APPENDIX A

Personnel File

These are the data elemets that the user will be able to change in the Personnel File:

	Element	Description
1.	Year	year of the Personnel File.
2.	Salary	average salary of the faculty members by rank and the salaries of lab school teachers.
3.	Number of Faculty	number of faculty by rank and the number of lab school teachers.
4.	Percentage Increase Factor	factor used to increase the elements in the years of projection.
5.	Total Budget	total expenditures for the fiscal year.
6.	Other Compensation	salaries of employees other than faculty and staff.
7.	Fringe Benefits	employer's contribution for retirement and to employee group life, health or accident insurance.
8.	Titles	"Title Headings"

Credit File

These are the data elements that the user will be able to change in the Credit File.

1.	Year	year of the Credit File.
2.	Credit Hours	average credit hours for graduate and undergraduate students.
3.	Section Size	average section size of graduate and undergraduate classes.
4.	Full Instructional Load	number of faculty credit hours each graduate or undergraduate faculty member must perform to be considered full-time.

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Credit File Continued...

	Element	Description
5.	Faculty Contact Hours	average number of hours of scheduled activity spent by graduate and undergraduate instructional faculty during a week.
6.	Number of Faculty	number of faculty members by rank.
7.	Titles	"Title Headings"

Enrollment File

These are the data elements that the user will be able to change in the Enrollment File:

1.	Student Body	number of students by classification, i.e., freshmen, seniors.
2.	Retention	percentage of students retained in each classification.
3.	Promotion	percentage of students promoted in each classification.
4.	Residence	the number of in-state, out-of-state, and foreign students.
5.	Housing	the number of students living on-campus by sex.
6.	Degrees	the number of students pursuing various degrees, i.e., Masters, Bachelor.
7.	Majors	number of students by major.

Fee Table File

These are the data elements that the user will be able to change in the Fee Table File:

1.	General Fees	general fees for graduate and undergraduate students by number of hours pursued.

Fee Table File Continued...

	Element	Description
2.	Out-of-State Fee	Out-of-State fee for nonresident graduate and undergraduate students by number of hours pursued.
3.	Number of Students	number of students by hours pursued, in-state and out-of-state.

APPENDIX B

GAMBLING STATE UNIVERSITY
PLANNING/BUDGETING MODEL
1984 -- 1988

	1984 — 1985		1985 — 1986		1986 -- 1987		1987 — 1988		1988 -- 1989	
ENROLLMENT										
GRAD	347	0.073	359	0.073	371	0.073	383	0.073	396	0.073
SENIOR	403	0.085	415	0.085	724	0.143	677	0.129	612	0.113
JUNIOR	615	0.130	1,087	0.222	999	0.197	903	0.172	916	0.169
SOPHOMORE	1,385	0.292	1,233	0.251	1,113	0.220	1,138	0.217	1,304	0.241
FRESHMEN	1,948	0.410	1,760	0.359	1,809	0.357	2,082	0.398	2,127	0.393
SPECIAL	49	0.010	50	0.010	52	0.010	54	0.010	55	0.010
TOTAL	4,746	1.000	4,904	1.000	5,067	1.000	5,236	1.000	5,410	1.000
SEX MIX										
MALES	2,178	0.495	2,251	0.495	2,326	0.495	2,403	0.495	2,483	0.495
FEMALES	2,221	0.505	2,295	0.505	2,371	0.505	2,450	0.505	2,531	0.505
TOTAL	4,399	1.000	4,545	1.000	4,697	1.000	4,853	1.000	5,015	1.000
SOURCE										
IN-STATE	2,725	0.619	2,816	0.619	2,909	0.619	3,006	0.619	3,106	0.619
OUT-STATE	1,552	0.353	1,604	0.353	1,657	0.353	1,712	0.353	1,769	0.353
FOREIGN	122	0.028	126	0.028	130	0.028	135	0.028	139	0.028
TOTAL	4,399	1.000	4,545	1.000	4,697	1.000	4,853	1.000	5,015	1.000
HOUSING										
MALES	1,373	0.457	1,419	0.457	1,466	0.457	1,515	0.457	1,566	0.457
FEMALES	1,631	0.543	1,685	0.543	1,741	0.543	1,799	0.543	1,859	0.543
TOTAL	3,004	1.000	3,104	1.000	3,207	1.000	3,314	1.000	3,424	1.000

REVENUES

STATE APPROPRIATION					
ACT 13 OF 1983	$12,107,400	$12,510,600	$12,927,200	$13,357,600	$13,802,400
ED DEVELOPMENT	$0	$0	$0	$0	$0
WCB BACK	$51,665	$53,385	$55,163	$57,000	$58,898
CURRENT SUBTOTAL	$1,503,890	$1,553,960	$1,605,710	$1,659,180	$1,714,430
STUDENT FEES					
GEN TUITION	$1,811,810	$1,872,140	$1,934,490	$1,998,910	$2,065,470
OUT-STATE	$524,895	$542,374	$560,435	$579,097	$598,381
ATHLETIC FEE	$197,360	$203,932	$210,723	$217,740	$224,991
OTHER FEES	$1,285,630	$1,328,450	$1,372,680	$1,418,390	$1,465,630
OTHER REVENUE					
INDIRECT COST	$227,338	$234,909	$242,731	$250,814	$259,166
SALES & SERVICE	$10,593	$10,946	$11,311	$11,687	$12,076
INVESTMENT INCOME	$0	$0	$0	$0	$0
ANTI RECESSION	$0	$0	$0	$0	$0
ATHLETIC	$1,125,700	$1,163,199	$1,201,930	$1,241,950	$1,283,310
DAIRY INCOME	$660,716	$682,718	$705,452	$728,944	$753,218
INFIRMARY FEE	$156,294	$161,498	$166,876	$172,433	$178,175
OTHER REVENUE	$203,142	$209,906	$216,896	$224,119	$231,582
TOTAL REVENUE	$19,866,400	$20,528,000	$21,211,600	$21,917,900	$22,647,800

LAB FACULTY										
PROFESSOR	49	0.224	50	0.224	52	0.224	54	0.224	55	0.224
ASSOC PROFESSOR	46	0.214	48	0.214	50	0.214	51	0.214	53	0.214
ASST PROFESSOR	73	0.338	76	0.338	78	0.338	81	0.338	84	0.338
INSTRUCTOR	28	0.129	29	0.129	30	0.129	31	0.129	32	0.129
PART-TIME	21	0.095	21	0.095	22	0.095	23	0.095	24	0.095
TOTAL	217	1.000	224	1.000	232	1.000	239	1.000	247	1.000
LAB SCHOOL										
LAB FACULTY		40		42		43		44		46
TOTAL		40		42		43		44		46
ADMINISTRATIVE STF										
SENIOR ADM	4	0.012	4	0.012	4	0.012	5	0.012	5	0.012
ADM ASSISTANT	8	0.025	9	0.025	9	0.025	9	0.025	9	0.025
CLERKS	9	0.028	10	0.028	10	0.028	10	0.028	11	0.028
TECHNICIANS	1	0.003	1	0.003	1	0.003	1	0.003	1	0.003
LIBRARY STAFF	9	0.028	10	0.028	10	0.028	10	0.028	11	0.028
MAINTENANCE	91	0.270	94	0.270	97	0.270	100	0.270	104	0.270
SECRETARY	17	0.049	17	0.049	18	0.049	18	0.049	19	0.049
DIRECTORS	32	0.095	33	0.095	34	0.095	35	0.095	37	0.095
SUPP STAFF CLASS	33	0.098	34	0.098	35	0.098	36	0.098	38	0.098
SUPP STAFF OFFICIALS	72	0.215	75	0.215	77	0.215	80	0.215	82	0.215
CLERKS	58	0.172	60	0.172	62	0.172	64	0.172	66	0.172
PART-TIME	2	0.006	2	0.006	2	0.006	2	0.006	2	0.006
TOTAL	337	1.000	348	1.000	360	1.000	372	1.000	384	1.000
STUDENT/FACULTY	21.871		21.871		21.871		21.871		21.871	
STAFF/FACULTY	1.552		1.552		1.552		1.552		1.552	
STUDENT/STAFF	14.089		14.089		14.089		14.089		14.089	

SALARY DATA (FACULTY)					
PROFESSOR	$30,759	$31,784	$32,842	$33,936	$35,066
ASSOC PROFESSOR	$25,617	$26,470	$27,351	$28,262	$29,203
ASST PROFESSOR	$22,725	$23,482	$24,264	$25,072	$25,907
INSTRUCTOR	$18,720	$19,344	$19,988	$20,653	$21,341
PART-TIME	$3,382	$3,495	$3,611	$3,731	$3,855
SALARY DATA (LAB SCHOOL)					
LAB FACULTY	18,917	19,547	20,197	20,870	21,565
SALARY DATA (ADMINISTRATION)					
SENIOR ADM	$57,437	$59,350	$61.326	$63,368	$65,478
ADM ASSISTANT	$18,843	$19,471	$20,119	$20,789	$21,481
DEANS	$42,041	$43,441	$44,887	$46,382	$47,927
TECHNICIANS	$15,946	$16,477	$17,026	$17,593	$18,178
LIBRARY STAFF	$23,235	$24,009	$24,808	$25,634	$26,488
MAINTENANCE	$13,841	$14,302	$14,778	$15,270	$15,779
SECRETARY	$14,792	$15,284	$15,793	$16,319	$16,863
DIRECTORS	$32,661	$33,748	$34,872	$36,033	$37,233
SUPP STAFF CLASS	$14,207	$14,680	$15,169	$15,674	$16,196
SUPP STAFF UNCLASS	$20,318	$20,994	$21,693	$22,416	$23,162
CLERKS	$11,553	$11,938	$12,336	$12,746	$13,171
PART-TIME	$8,215	$8,488	$8,771	$9,063	$9,365

EXPENDITURES

[illegible]					
SALARIES					
FAC SALARY	$4,874,470	$5,204,510	$5,556,910	$5,933,160	$6,334,880
A&P SALARY	$6,190,870	$6,610,050	$7,057,610	$7,535,470	$8,045,690
LAB FACULTY	$0	$0	$0	$0	$0
FACULTY DEV	$63,735	$65,857	$68,050	$70,316	$72,658
SUPER FACULTY	$314,610	$325,086	$335,912	$347,098	$358,656
ADJUNCT FACTR	$51,665	$53,385	$55,163	$57,000	$58,898
FAC. MD.	$32,032	$33,099	$34,201	$35,340	$36,517
STUDENT EMPLOY	$256,258	$264,792	$273,609	$282,721	$292,135
OVERTIME	$36,166	$37,370	$38,614	$39,900	$41,229
TECH & SUP	$162,223	$167,625	$173,207	$178,975	$184,935
ATTRITION FACTOR	-$309,990	-$320,313	-$330,979	-$342,001	-$353,389
OTHER COMPENSATION					
WAGES	$142,972	$147,732	$152,652	$157,735	$162,988
STUDENT LABOR	$395,754	$408,933	$422,550	$436,621	$451,160
EVENING INST	$0	$0	$0	$0	$0
RELATED BENEFITS					
RET CONT-STR	$327,081	$337,973	$349,227	$360,856	$372,873
RET CONT-UNCH	$775,691	$801,522	$828,212	$855,792	$884,290
FICA TAX	$11,438	$11,818	$12,212	$12,619	$13,039
GROUP INSUR	$367,643	$379,885	$392,536	$405,607	$419,114
OTHER	$0	$0	$0	$0	$0
ATTRITION FACTOR	-$38,749	-$40,039	-$41,372	-$42,750	-$44,174
TOTAL PERSONAL SALAR	$13,653,900	$14,489,300	$15,378,300	$16,324,500	$17,331,500

IN-STATE					
ADMINISTRATIVE	$15,500	$16,016	$16,549	$17,100	$17,669
CHIEF & CONV	$53,732	$55,521	$57,370	$59,280	$61,254
FIELD	$36,166	$37,370	$38,614	$39,900	$41,229
ATHLETICS	$46,499	$48,047	$49,647	$51,300	$53,008
OUT-STATE					
ADMINISTRATIVE	$10,333	$10,677	$11,033	$11,400	$11,780
CHIEF & CONV	$46,806	$48,365	$49,976	$51,640	$53,359
FIELD	$25,833	$26,693	$27,582	$28,500	$29,449
ATHLETICS	$113,153	$116,921	$120,814	$124,837	$128,994
TOTAL TRAVEL	$348,020	$359,609	$371,584	$383,957	$396,743
OPERATING SERVICES					
ADVERTISING	$39,265	$40,573	$41,924	$43,320	$44,763
PRINTING	$118,830	$122,787	$126,875	$131,100	$135,466
INSURANCE	$183,145	$189,244	$195,546	$202,057	$208,786
MAINT OF EQUIP					
AUTO REPAIRS	$64,581	$66,732	$68,954	$71,250	$73,623
OTHER MAINT	$260,788	$269,473	$278,446	$287,718	$297,299
RENTALS	$92,997	$96,094	$99,294	$102,600	$106,017
DUES & SUBSCR	$61,998	$64,063	$66,196	$68,400	$70,678
POSTAGE	$46,499	$48,047	$49,647	$51,300	$53,008
TELEPHONE	$349,970	$361,624	$373,667	$386,110	$398,967
UTILITIES	$395,663	$408,839	$422,453	$436,521	$451,057
OTHER SERVICES					
LAUNDRY	$2,583	$2,669	$2,758	$2,850	$2,945
LAB FEES	$0	$0	$0	$0	$0
MISC	$51,665	$53,385	$55,163	$57,000	$58,898
TOTAL OPER SERV	$1,667,990	$1,723,530	$1,780,920	$1,840,230	$1,901,510

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OFFICE SUPPLIES	$160,678	$166,029	$171,557	$177,270	$183,173
OPERATING SUPPLIES					
MEDICAL	$19,723	$20,379	$21,058	$21,759	$22,484
FOOD	$51,665	$53,385	$55,163	$57,000	$58,898
AGRICULTURE	$129,163	$133,464	$137,908	$142,500	$147,246
OTHER	$165,328	$170,833	$176,522	$182,400	$188,474
REPAIR & MAINT					
AGRICULTURE	$26,866	$27,760	$28,685	$29,640	$30,627
OTHER	$198,418	$205,026	$211,853	$218,908	$226,197
TOTAL SUPPLIES	$751,841	$776,877	$802,747	$829,478	$857,100
PROFESSIONAL SERVICE					
ACCOUNTING	$41,332	$42,708	$44,131	$45,600	$47,119
CONSULTING	$0	$0	$0	$0	$0
ARCHITECTURAL	$0	$0	$0	$0	$0
LEGAL	$2,772	$2,865	$2,960	$3,059	$3,160
MEDICAL	$41,332	$42,708	$44,131	$45,600	$47,119
VETERINARY	$0	$0	$0	$0	$0
OTHER	$57,229	$59,135	$61,104	$63,139	$65,242
TRAVEL	$15,500	$16,016	$16,549	$17,100	$17,669
TOTAL SERVICES	$158,165	$163,432	$168,874	$174,498	$180,309

[illegible]					
ACQUISITIONS					
LAND	$0	$0	$0	$0	$0
BUILDINGS	$0	$0	$0	$0	$0
MACHINERY & EQUIP					
AUTOMOTIVE	$49,710	$51,365	$53,076	$54,843	$56,670
GEN PLANT	$0	$0	$0	$0	$0
FARM	$0	$0	$0	$0	$0
HOUSEHOLD	$0	$0	$0	$0	$0
MEDICAL	$0	$0	$0	$0	$0
OFFICE	$64,759	$66,915	$69,144	$71,446	$73,825
ED RECREATIONAL	$280,850	$290,202	$299,866	$309,852	$320,170
LIB MATERIAL	$465,802	$481,314	$497,341	$513,903	$531,016
BOAT & AIRCRAFT	$0	$0	$0	$0	$0
COMMUNICATION	$0	$0	$0	$0	$0
OTHER	$68,029	$70,295	$72,636	$75,054	$77,554
MAJOR REPAIRS					
LAND	$0	$0	$0	$0	$0
BUILDINGS	$0	$0	$0	$0	$0
MACHINERY & EQUIP					
AUTOMOTIVE	$0	$0	$0	$0	$0
GEN PLANT	$0	$0	$0	$0	$0
FARM	$0	$0	$0	$0	$0
HOUSEHOLD	$0	$0	$0	$0	$0
MEDICAL	$0	$0	$0	$0	$0
OFFICE	$0	$0	$0	$0	$0
ED RECREATIONAL	$0	$0	$0	$0	$0
BOATS & AIRCRAFT	$0	$0	$0	$0	$0
COMMUNICATION	$0	$0	$0	$0	$0
OTHER	$51,665	$53,385	$55,163	$57,000	$58,898
TOTAL CAP OUTLAY	$980,816	$1,013,480	$1,047,230	$1,082,100	$1,118,130

[illegible]	$0	$0	$0	$0	$0
[illegible]	$0	$0	$0	$0	$0
[illegible]	$0	$0	$0	$0	$0
[illegible]	$19,396,408	$20,4[illegible]	$21,[illegible]	$22,649,200	$23,[illegible]
[illegible]	$470,331	$115,[illegible]	-$387,[illegible]	-$731,224	-$1,[illegible]

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